

Before the
Federal Communications Commission
Washington, D.C. 20554

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JUL 27 1992

Federal Communications Commission
Office of the Secretary

In the Matter of)

1992 Annual Access Tariff Filings)

GTE Telephone Operating)
Companies)

CC Docket No. 92-141

Transmittal No. 711

ORIGINAL
FILE

**DIRECT CASE
OF GTE**

GTE Service Corporation and its
affiliated GTE domestic telephone
operating companies

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July 27, 1992

THEIR ATTORNEY

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SUMMARY

In response to the Commission's Order Designating Issues for Investigation, GTE provides further support for the below-band rate reductions originally filed as part of the GTE telephone operating companies' 1992 annual access tariff. GTE shows that the proposed rates cover their average variable cost and otherwise meet all requirements of the Commission's Rules.

GTE also shows that the proposed rates are not predatory using relevant antitrust analysis and precedents. The rate reductions proposed constitute a proper, competitive response to market conditions and are a legitimate response to an increasingly competitive market. Based upon the relevant antitrust cases, the reduced rates proposed by the GTOCs would not be considered predatory prices.

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**DIRECT CASE
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GTE Service Corporation ("GTE"), on behalf of its GTE affiliated domestic telephone operating companies ("the GTOCs"), hereby submit this Direct Case in response to issues designated for investigation in the Commission's Memorandum Opinion and Order Suspending Rates and Designating Issues for Investigation ("the Designation Order"), DA 92-841 released June 22, 1992.

BACKGROUND

On April 2, 1992, the GTOCs submitted their 1992 Annual Access Tariff filing to adjust the price cap indices for each basket based upon the GDP-PI, relevant exogenous changes and the productivity offset. This filing also proposed reductions below the applicable band in certain Traffic Sensitive Switched Access rates for several GTOC jurisdictions. As part of the supporting documentation accompanying the filing, the GTOCs provided average variable cost summaries for the applicable jurisdictions demonstrating that the rates cover the cost of service as required by the price cap rules.

The Designation Order suspended the proposed below-band rate reductions and designated two issues for investigation. The two issues are:

1. Are the below band rates above the GTOCs' average variable costs;
2. Are the rates otherwise just, reasonable, and non-discriminatory.

As will be shown herein, the proposed below-band Local Transport rates meet all the Commission's requirements and are otherwise just and reasonable. The rates should be allowed to become effective immediately.

I. THE GTOCS' RATES ARE ABOVE AVERAGE VARIABLE COST

The GTOCs filed summary results of Average Variable Cost ("AVC") studies in their April 2, 1992 Annual Access Tariff Filing in support of proposed below-band rates in GTE California (GTCA), GTE Florida (GTFL), GTE Southwest (GTSW), and GTE Washington/Oregon/California-West-Coast (GTNB). As required by the Designation Order, the detail underlying the summarized results is now being provided. This detail shows that the methodology and data used by the GTOCs in developing their AVCs are accurate. This filing demonstrates that the cost study methodology employed by the GTOCs produced results equating to the GTOCs' AVC and that the proposed below-band rates are above this cost standard. This support is presented in four sections:

1. SUM workpapers combine the various cost sub-elements into the total investment required for each rate element;
2. DETAIL workpapers show the material, engineering, and installation costs of the equipment used to build each specified cost sub-element;
3. Workpapers TS-BB-4 and TS-BB-5 are resubmissions of the original summarized AVC results as filed on April 2, 1992; and
4. Return and Income Tax Calculation workpapers.

COST COMPONENTS

The switched access rate elements under examination recover the costs of the network components used to provide switched transport services. The Transport Facility rate element recovers costs associated with interoffice cable facilities, while the Transport Termination rate element recovers costs associated with central office termination equipment and tandem expense. Entrance facility costs, i.e., loop facilities used to connect the Interexchange Carrier ("IXC") Customer Designated Location ("CDL") to its serving wire center, are recovered by both the Transport Facility and the Transport Termination switched access rate elements in the proportions indicated on the attached SUM exhibits. Consideration is given to the mix of copper and fiber technologies and to the type of central office where circuits will be terminating, i.e., analog or digital, since both of these factors heavily influence the associated costs.

COST MODELING TECHNIQUE

The total cost of providing Transport Termination and Transport Facility services was developed by first determining the investment amounts for each service component and then adding appropriate loadings for maintenance and other expenses, as will be discussed later. The material, installation and engineering investment associated with the Transport Termination and Transport Facility rate elements were developed using "bottoms-up" cost models.¹ These models develop investment on a total system basis and then reduce the cost to different circuit capacity levels, i.e., DS-3, DS-1, and Voice Grade. For example,

¹ These same cost models have been used by the GTOCs in support of special access rates filed before this Commission, including those rates filed in Transmittals 694 and 673.

if the total cost of a 565 fiber optic terminal system is input into the cost model and the appropriate fills are applied, one would divide by 12 to demonstrate the total cost on a per DS-3 basis. This amount would be divided by 28 to show the cost on a DS-1 level, and subsequent division of this result by 24 would provide results on a voice grade level. DS-1 circuit level output is shown for the Entrance Facility and Interoffice Facility investments on DETAIL pages 1-4, and Voice Grade circuit level output is shown on DETAIL pages 5-8 for Transport Termination elements. The per circuit investment was then converted to the individual switched transport rate element by dividing by the appropriate usage amount. Examples of this conversion are shown at the bottom of SUM 1.0 and SUM 2.0. Cost summaries are shown at both the per circuit level (SUM 1.1 and SUM 2.1) and the switched access rate element level (SUM 1.0 and SUM 2.0) to illustrate the conversion.

Labor rates and material loadings used as input to the bottoms-up cost models were taken from the most current company studies of these factors. The GTOCs' network engineering utilization factors of 90% for circuit equipment and 75% for outside plant were used for all items of equipment required to provide interoffice transport and transport termination. Output from these cost models is shown on DETAIL pages 1 through 8.

Tandem costs were developed from a tops down approach due to the unavailability of an appropriate cost model. GTE's existing switching model was developed to calculate the cost of end office switching, and would not be appropriate for use in determining tandem unit cost. In lieu of an average variable study for tandem cost, GTE has developed a surrogate cost study

approach using separations studies.² These studies identify expenses and investment directly attributable to Central Office Equipment Category 2 (tandem), and are shown on DETAIL page 9 for each study area.

DEVELOPMENT OF WEIGHTED INVESTMENT

Total investment information for each rate element component is found on the SUM workpapers. These workpapers are provided in two parts, one at the DS-1 or voice grade ("VG") level for illustrative purposes (SUM 1.1 and 2.1) and a second at the appropriate switched rate element level (SUM 1.0 and 2.0). The purpose of these workpapers is to show the amount of each network component as it is included in the total investment for each rate element. References to the appropriate DETAIL workpapers and original summary workpapers are included. The following discussion addresses the source of the weighting factors used to develop the final investment required for each service.

Entrance facility investments were assigned a 90% fiber and 10% copper weight as shown on SUM 1.1 and SUM 2.1. These assignments were developed by network planning estimates of the type of plant used for entrance facilities. The weighted fiber/copper entrance facility investment is then split between the transport facility and transport termination rate elements in the

² GTE's choice of costing methodology in this instance was a pragmatic one, and it should be noted that it resulted in a higher level of tandem cost than would have been otherwise calculated using a bottoms-up approach. This tops-down approach, when added to other network costs, resulted in a higher AVC floor than would have been achieved if a bottom-up approach were developed.

same proportion as was used in the April 1990 Annual Filing.³ These weightings are shown on line 13 of the SUM workpapers.

SUM 1.1 continues the development of the total Transport Facility investment with the fiber/copper weightings for interoffice facilities. These ratios were taken from the ARMIS Infrastructure Report, FCC Report 43-07, August 1991.⁴ Fiber percentages were rounded up to the next 5 percentage points to reflect the ongoing transition to this technology. For example, GTCA reported 62% fiber facilities on the ARMIS report, however, 65% was used in the AVC study.⁵ Since the weighted fiber/copper interoffice facility investment is initially on a per mile basis, the next step was to multiply by the average airline mileage for the study area as calculated by dividing total 1990 switched access minute-miles by total end office switching minutes.⁶ The result shown on line 35 of SUM 1.1 is the total weighted investment to be recovered by the Transport Facility rate element, from the IXC CDL to the end office.

³ This was the last Revenue Requirement Annual Filing submitted by the GTOCs. This filing separated the Entrance Facility revenue requirement between the Transport Termination and the Transport Facility rate elements.

⁴ Accurate data was not available on the ARMIS report for GTSW; therefore, a special study was conducted to develop a copper/fiber split based on actual use of each technology for interoffice transport in this jurisdiction.

⁵ As the network evolves from copper to fiber based facilities, the weighted costs will decrease to reflect the increased use of fiber technology, further increasing the gap between proposed prices and average variable costs.

⁶ 1990 information was used because 1991 information was not available at the time the AVC studies were conducted. The results for 1991 are now available, and do not vary significantly from those for 1990, as shown on Exhibit CS-1. Use of 1990 average airline mileage was reasonable and appropriate.

Transport Termination investment is computed by weighting the totals for copper and fiber and for analog and digital termination equipment using the ratio currently in existence in the GTOC network. The fiber/copper ratios are the same as those used for interoffice facilities. The ratio of analog to digital investment is based on the number of working digital and analog lines in each study area at the end of September 1991. Tandem investment is also recovered by the Transport Termination rate element based on the historic allocation of tandem investment to this rate element.⁷

The final results of SUM 1.1 and SUM 2.1, lines 35 and 56 respectively, can be referenced to TS-BB-4 and TS-BB-5, lines 3, 8, 11, and 12. These amounts represent the total cost of transport facility and transport termination at the DS-1 and VG level, respectively.

DEVELOPMENT OF RATE ELEMENT INVESTMENT DETAIL

Transition from the per circuit investment level shown on SUM 1.1 and SUM 2.1 to the switched rate element level shown on SUM 1.0 and SUM 2.0 is based on average monthly usage per inter-office VG trunk. Following the example at the bottom of SUM 1.0, to arrive at the minute-mile level for switched transport facility from the DS-1 level provided on SUM 1.1, the DS-1 amounts were first divided by 24 (the number of voice grade circuits in one DS-1). Entrance facility amounts were next divided by the average length of haul, to determine the per mile amount for the entrance facility. Finally, this amount was divided by the average usage per VG circuit of 10,560 minutes. This average

⁷ Consistent with the methodology employed by GTE in past filings, Category 2, tandem investment, is assigned to the Switched Transport Termination rate element.

usage was developed from the GTOC traffic engineering grade of service planning standard for interoffice networks, which limits occupancy to 80%, or 28.8 busy hour Centum Call Seconds⁸ (80% * 36 CCS). The following calculation shows the conversion of 28.8 CCS to 10,560 minutes of use:

$$28.8 \text{ busy hour CCS} * 10 \text{ Busy Hours/Day} = 288 \text{ CCS/Day}$$

$$288 \text{ CCS/Day} * 22 \text{ Days/Month} = 6,336 \text{ CCS/Month}$$

$$6,336 \text{ CCS/Month} / .6 = 10,560 \text{ MOUs/Month}$$

where .6 is the CCS to MOU conversion factor.

Since the transport termination investment is already at the VG level and no mileage adjustment is required, the only calculation necessary to arrive at the rate element level is to divide by 10,560 minutes, as shown in the example at the bottom of SUM 2.0.

As with the total investments calculated on SUM 1.1 and SUM 2.1, the total investments calculated at the rate element level can be referenced to the original exhibits TS-BB-4 and TS-BB-5 as indicated at the bottom of SUM 1.0 and SUM 2.0, lines 31 and 56 respectively.

ANNUAL COST DEVELOPMENT

Section V of TS-BB-4 and TS-BB-5 shows the annual costs associated with the total investments calculated above. These amounts are calculated by using actual financial factors or by using factors derived from separations studies which use a ratio of historic expenses to gross original investment for each related account. Following is a description of each factor:

⁸ One CCS is equal to 100 seconds.

CIRCUIT EQUIPMENT DEPRECIATION - Annual depreciation expense based on separations studies of the depreciation associated with circuit equipment. This factor is applied to the circuit equipment material, engineering, and installation cost to determine the annual depreciation expense.

OUTSIDE PLANT DEPRECIATION - Annual depreciation expense based on separations studies of the depreciation associated with outside plant. The annual cost factor is applied to outside plant material, engineering, and installation costs to determine the annual depreciation expense.

RETURN - As illustrated on the attached "Return and Income Tax Calculation" workpapers, the return is calculated for each year according to the revenue life for the service in question, using 11.25% as the allowed rate of return. A simple average of the sum of each years return is then calculated and used as the average return. Return associated with tandem investment is calculated by multiplying the same return resulting from the "Return and Income Tax Calculation" workpapers by total tandem investment.

FEDERAL AND STATE INCOME TAX - Federal and state taxes are calculated in the same manner as described above for return, using the annual return and statutory income tax factors for each jurisdiction. These calculations are presented in the attachments entitled "Return and Income Tax Calculation". As with the return calculations, the tax rate resulting from these workpapers was applied to total tandem investment separately.

ANNUAL NON-RECOVERABLE COST - Reflects a portion of the investment and labor costs which must be recovered over the revenue life. The Non-Recoverable costs are derived by computing an annuity for the present value of capital investment plus income tax effects, based on the revenue life of the service and an 11.25% discount rate. Depreciation, return, and tax expenses

were then subtracted from the annuity amount to arrive at the total non-recoverable cost.⁹

MAINTENANCE - Annual maintenance expense factors for circuit equipment and outside plant times the appropriate material, engineering, and installation investment resulted in total maintenance expense. These factors were developed as the ratio of historic maintenance and repair expense to the total gross investment for each account on a state by state bases.

OTHER TAXES - Annual tax expenses other than federal and state income taxes.

OTHER EXPENSES - Other miscellaneous tandem expenses.¹⁰

SUMMARY

The cost basis developed by the GTOCs represents the average variable cost of GTOCs' existing network. The proposed below-band rates are above this cost standard, as shown on workpaper TS-BB-1.¹¹ The proposed rates should be allowed to go into effect without delay.

⁹ The sum of the depreciation, return, tax, and non-recoverable amounts (lines 17-21 of TS-BB-4 or lines 19-23 of TS-BB-5) will equal the annuity for the present value of capital investment.

¹⁰ Administration loadings were not included since such loadings would not be appropriate in an average variable cost study.

¹¹ With the exception of the Transport Facility rate in Florida, which is equal to its average variable cost.

II. THE PROPOSED RATE REDUCTIONS ARE OTHERWISE JUST AND REASONABLE

For below-band filings, a showing that the rates cover average variable costs is central to a determination of whether rates are predatory. However, the Commission recognized in the Price Cap proceeding¹² that even rates which covered average variable cost could otherwise be shown not be just and reasonable. Thus, the second issue designated for investigation in this proceeding is whether the GTOCs' rates are otherwise just, reasonable and nondiscriminatory.

The GTOCs have shown above in great detail that the rate reductions proposed cover their average variable cost. Further, as shown in this section, the rates are not predatory and are otherwise just and reasonable in accordance with Sections 201(b) and 202(a) of the Communications Act.

PREDATORY PRICING

Predatory pricing occurs when a company controlling a substantial market share lowers its prices to force out competition.¹³ The theory is that a producer will price below average variable cost to drive competitors out of the market and will then later raise prices to reap monopoly profits. As the Supreme Court recognized in Matsushita Electric, an essential element of a predatory pricing scheme is the ability later to recover monopoly profits.

¹² Report and Order and Second Further Notice of Rulemaking, 4 FCC Rcd 2873, 3115 (1989). The Commission also found that predatory pricing is often alleged but rarely proven. *Id.* at 3114.

¹³ See Matsushita Elect. Industrial Co., Ltd. v. Zenith Radio Corp., 475 U.S. 574, 589 (1986); Transamerica Computer Co., Inc. v. International Business Machines Corp., 698 F.2d 1377, 1384 (9th Cir. 1983).

The price cap structure, however, assures that a carrier cannot later raise rates and charge monopoly prices.¹⁴ The service band index will be established at a significantly lower level due to the reductions proposed by GTE. Efforts later to raise these rates above the five per cent band would result in an above-band filing which would require a significant showing. Furthermore, the separate price cap baskets and reporting obligations assure that potential losses cannot be offset significantly by raising rates for other services or by raising rates in other jurisdictions. As the Commission anticipated, it would be extremely difficult for GTE to later raise prices to recoup losses through monopoly profits under price caps. In fact, GTE has not proposed to increase other rates elements. Thus, under Price Caps, there is no incentive to engage in predatory pricing.

In the Price Cap proceeding, the Commission adopted average variable cost as a starting point in evaluating the reasonableness of below-band rates. Further, the Commission stated that it would look to relevant antitrust analysis and precedents to determine whether proposed reduced rates are predatory on a case-by-case.¹⁵ While the courts disagree on the point at which prices can be presumed to be predatory or lawful, most courts recognize that a firm's average variable cost plays a central role in determining whether prices are predatory.

¹⁴ See LEC Price Cap Reconsideration Order, 6 FCC Rcd 2637, 2699 (1991). Further Notice of Proposed Rulemaking, 3 FCC Rcd , 3371 (1988).

¹⁵ LEC Price Cap Order, 5 FCC Rcd 6786, 6824 (1990).

Some courts have adopted the theory of economists Areeda and Turner¹⁶ who advocate using average variable cost to determine whether there is predation.¹⁷ Prices below average variable cost are per se predatory and prices above average variable cost are per se lawful. Under this test, GTE's showing that the proposed rates are above their average variable cost supports a finding of lawfulness.

Average variable cost also has been used to establish presumptions of lawfulness and burdens of proof.¹⁸ Once it is determined that the prices are above average cost, the plaintiff would then have the burden of proving that the prices are predatory through other evidence. Applying this in this investigation, after it is shown that the rates proposed exceed their average variable cost, the burden would be on those challenging the rates to show through other evidence

¹⁶ Areeda & Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*, 88 Harv.L.Rev. 697 (1975). In fact, average variable cost is an extremely conservative standard. From an economist's standpoint, rates above incremental cost are not predatory. Areeda and Turner proposed average variable cost as a more readily measured proxy for incremental cost; however, average variable cost is generally higher than incremental cost.

¹⁷ See, e.g., *Northeastern Telephone Co. v. American Telephone and Telegraph Co.*, 651 F.2d 76 (2d Cir. 1981).

¹⁸ See, e.g., *Transamerica Computer Co.* at 698 F.2d 1386. "If the defendant's prices were below average total cost but above average variable cost, the plaintiff bears the burden of showing defendant's pricing was predatory. If, however, the plaintiff proves that the defendant's prices were below average variable cost, the plaintiff has established a prima facie case of predatory pricing and the burden shifts to the defendant to prove that the prices were justified without regard to any anticipated destructive effect they might have on competitors." *Id.* at 1035-36 citing, *William Inglis & Sons Baking Co. v. ITT Continental Baking Co., Inc.*, 668 F.2d 1014 (9th Cir. 1981), cert. den., 103 S.Ct. 58 (1982). , cert. den., 103 S.Ct. 58 (1982). See also *Morgan v. Ponder*, 892 F.2d 1355, 1360 (8th Cir. 1989).

that the rates are nonetheless predatory. There is no evidence on the record in this tariff investigation of predatory intent.

The courts have recognized that predatory pricing differs from healthy competitive pricing by its motive. Price reductions that constitute a legitimate, competitive response to market conditions are not predatory.¹⁹ The rate reductions proposed by GTE are in direct response to the increased competition facing Local Exchange Carriers ("LECs") from the Competitive Access Providers ("CAPs"). Cellular carriers, cable companies and personal communications providers are also potential suppliers of competitive services. Existing and new entrants into the market will impact the long run supply and demand characteristics of the market. GTE is becoming more efficient in its provision of service and will continue to increase efficiency and to reduce costs in order to remain a viable participant in this market. As cost efficiencies are experienced, the rates for access services will decline. This result is a natural outcome of increased competition and a more flexible regulatory environment. Thus, the reductions proposed are a legitimate response to an increasingly competitive market.

The courts have also recognized that "[i]t is not anticompetitive for a company to reduce prices to meet lower prices already being charged by competitors."²⁰ Although the rate reductions proposed by GTE amount in some cases to substantial percentage reductions from its current rates, the rates

¹⁹ See Richter Concrete Corp. v. Hilltop Concrete Corp., 691 F.2d 818 (6th Cir. 1982); California Computer Corp. v. International Business Machines, 618 F.2d 727, 743 (9th Cir. 1979).

²⁰ See Richter Concrete Corp., 691 F.2d at 826; William Inglis & Sons Baking Co., 668 F.2d at 1031.

proposed still exceed the rates of its competitors. Prices cannot be predatory if they respond directly to competition and are, in fact, not lower than the competitor's price.

Thus, based upon the relevant antitrust cases, the reduced rates proposed by GTE would not be considered predatory prices.

NON-DISCRIMINATION

Section 202(a) of the Communications Act prohibits a carrier from charging similarly situated customers unreasonably discriminatory rates for like communications services. There is no discrimination in the reductions proposed. All customers would receive the same rates, terms and conditions for like services in the study areas involved.

MFS challenged the rate reductions because they applied only to those areas where GTE faces substantial competition. There is no requirement that the rates in the different study areas be the same or that GTE must make the same rate adjustments for different study areas. The rates for different study areas were originally developed based upon different costs. It was anticipated under the price cap rules that, once subject to incentive regulation, rates would continue to differ. Even if services in these different jurisdictions were found to be like services, the different rates are reasonably justified.

OTHERWISE JUST AND REASONABLE

Section 201(b) of the Communications Act requires that all rates and charges be just and reasonable. As GTE has shown that the proposed rate reductions are in accordance with the Price Cap rules and relevant antitrust precedents, the reductions are otherwise just and reasonable as required by the Act.

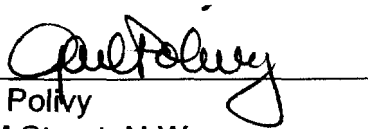
CONCLUSION

The GTOCs have shown that the proposed below-band rates cover their average variable cost and are otherwise just and reasonable. Accordingly, the rates should be allowed to go into effect as filed.

Respectfully submitted,

GTE Service Corporation and its
affiliated GTE domestic telephone
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Public Version

GTE TELEPHONE OPERATIONS
1992 ANNUAL FILING

**COMPARISON OF AVERAGE VARIABLE COST
TO PROPOSED RATES FILED BELOW BAND**

CALIFORNIA				
RATE ELEMENT DESCRIPTION	PROPOSED MONTHLY RATE A	AVERAGE VARIABLE MONTHLY COST B	\$ DIFFERENCE C=A-B	% DIFFERENCE D=C/B
PREMIUM SWITCHED TRANSPORT FACILITY (PER MOU PER MILE)	0.00005640	0.00004650	0.00000990	21.29%
PREMIUM SWITCHED TRANSPORT TERMINATION (PER MOU PER TERM)	0.00190350	0.00055160	0.00135190	245.09%

FLORIDA				
RATE ELEMENT DESCRIPTION	PROPOSED MONTHLY RATE A	AVERAGE VARIABLE MONTHLY COST B	\$ DIFFERENCE C=A-B	% DIFFERENCE D=C/B
PREMIUM SWITCHED TRANSPORT FACILITY (PER MOU PER MILE)	0.00002060	0.00002060	0.00000000	0.00%
PREMIUM SWITCHED TRANSPORT TERMINATION (PER MOU PER TERM)	0.00199760	0.00068760	0.00131000	190.82%

SOUTHWEST				
RATE ELEMENT DESCRIPTION	PROPOSED MONTHLY RATE A	AVERAGE VARIABLE MONTHLY COST B	\$ DIFFERENCE C=A-B	% DIFFERENCE D=C/B
PREMIUM SWITCHED TRANSPORT FACILITY (PER MOU PER MILE)	0.00006060	0.00004440	0.00001620	36.49%
PREMIUM SWITCHED TRANSPORT TERMINATION (PER MOU PER TERM)	0.00462150	0.00084050	0.00378100	449.85%

OREGON/WASHINGTON/CALIFORNIA-WEST COAST				
RATE ELEMENT DESCRIPTION	PROPOSED MONTHLY RATE A	AVERAGE VARIABLE MONTHLY COST B	\$ DIFFERENCE C=A-B	% DIFFERENCE D=C/B
PREMIUM SWITCHED TRANSPORT FACILITY (PER MOU PER MILE)	0.00003580	0.00003040	0.00000540	17.76%
PREMIUM SWITCHED TRANSPORT TERMINATION (PER MOU PER TERM)	0.00684960	0.00122780	0.00562180	457.88%

GTE TELEPHONE OPERATIONS**COMPARISON OF 1990 TO 1991 TRANSPORT MILEAGES**

TARIFF ENTITY	MILEAGE BASED ON 1990 UNITS	MILEAGE BASED ON 1991 UNITS
CALIFORNIA	12.71	12.15
FLORIDA	14.82	14.16
SOUTHWEST	17.86	20.70
WASHINGTON/OREGON/CALIF-WC	16.23	18.11

GTE TELEPHONE OPERATIONS

RATE ELEMENT INVESTMENT SUMMARY

TRANSPORT FACILITY (PER MOU/PER AIRLINE MILE)

CALIFORNIA

RATE SUBELEMENT A	SOURCE PAGE B	MATERIAL C	ENGINEERING D	INSTALLATION E	TOTAL F=C+D+E
1 ENTRANCE FACILITY					
2					
3 DS-1 FIBER SAL (per mou/mile)	SUM 1.1, LN 3*	\$0.00042298	\$0.00004186	\$0.00006202	\$0.00052686
4 % FIBER		90.00%	90.00%	90.00%	90.00%
5 FIBER SAL PROPORTION	LN 3*LN 4	0.00038068	0.00003767	0.00005582	0.00047417
6					
7 DS-1 COPPER SAL (per mou/mile)	SUM 1.1, LN 7*	0.00062782	0.00034468	0.00027161	0.00124411
8 % COPPER		10.00%	10.00%	10.00%	10.00%
9 COPPER SAL PROPORTION	LN 7*LN 8	0.00006278	0.00003447	0.00002716	0.00012441
10					
11 TOTAL ENTRANCE FACILITY	LN 5+LN 9	0.00044346	0.00007214	0.00008298	0.00059858
12					
13 % RECOVERED BY TRANSPORT FACILITY		26.00%	26.00%	26.00%	26.00%
14					
15 PROPORTION ENTRANCE FACILITY AMOUNT	LN 11*LN 13	\$0.00011530	\$0.00001876	\$0.00002158	\$0.00015563
16					
17					
18 INTEROFFICE FACILITY					
19					
20 DS-1 FIBER TRANSPORT (per min/mile)	SUM 1.1, LN 20*	\$0.00008298	\$0.00000750	\$0.00003693	\$0.00012741
21 % FIBER		65.00%	65.00%	65.00%	65.00%
22 FIBER TRANSPORT PROPORTION	LN 20*LN 21	0.00005394	0.00000487	0.00002401	0.00008281
23					
24 DS-1 COPPER TRANSPORT (per min/mile)	SUM 1.1, LN 24*	0.00425387	0.00062133	0.00100868	0.00588388
25 % COPPER		35.00%	35.00%	35.00%	35.00%
26 COPPER TRANSPORT PROPORTION	LN 24*LN 25	0.00148885	0.00021747	0.00035304	0.00205936
27					
28 TOTAL INTEROFFICE FACILITY	LN 22+LN 26	\$0.00154279	\$0.00022234	\$0.00037704	\$0.00214217
29					
30					
31 TOTAL INVESTMENT - TRANSPORT FACILITY	LN 15+LN 28	\$0.00165809	\$0.00024109	\$0.00039862	\$0.00229780
32 (per mou/mile)					
33					
34 REFERENCE TO WORKPAPER TS-BB-4		PG 1, LN 3	PG 1, LN 8	PG 1, LN 11	PG 1, LN 12

* Formula for conversion from DS-1 facilities: (DS-1 Cost/24 Trunks/[12.71 miles]/ Usage per Trunk)*12
(DS-1 Cost/24/[12.71]/10560*12)*12

Example: (A) DS-1 Fiber Sal \$1,362.51 Material Investment at DS-1 level: LN 3, SUM 1.1.
(B) = (A) / 24 56.77 Cost per circuit based on 24 circuits in 1 DS-1.
(C) = (B) / 12.71 4.47 Entrance Fac cost per mile based on study area ALOH.
(C) = (B) / 10,560 \$0.00042298 Investment per MOU based on 28.8 busy hour CCS.

GTE TELEPHONE OPERATIONS

RATE ELEMENT INVESTMENT SUMMARY

TRANSPORT FACILITY (@ DS-1 LEVEL)

CALIFORNIA

RATE SUBELEMENT A	DETAIL SOURCE PAGE	MATERIAL	ENGINEERING	INSTALLATION	TOTAL
	B	C	D	E	F=C+D+E
1 ENTRANCE FACILITY					
2					
3 DS-1 FIBER SAL	PG 1, LN 18	\$1,362.51	\$134.83	\$199.79	\$1,697.13
4 % FIBER		90.00%	90.00%	90.00%	90.00%
5 FIBER SAL PROPORTION	LN 3*LN 4	1,226.26	121.35	179.81	1,527.42
6					
7 DS-1 COPPER SAL	PG 2, LN 18	2,022.35	1,110.28	874.91	4,007.54
8 % COPPER		10.00%	10.00%	10.00%	10.00%
9 COPPER SAL PROPORTION	LN 7*LN 8	202.24	111.03	87.49	400.75
10					
11 TOTAL ENTRANCE FACILITY	LN 5+LN 9	1,428.49	232.38	267.30	1,928.17
12					
13 % RECOVERED BY TRANSPORT FACILITY		26.00%	26.00%	26.00%	26.00%
14					
15 PROPORTION ENTRANCE FACILITY AMOUNT	LN 11*LN 13	\$371.41	\$60.42	\$69.50	\$501.32
16					
17					
18 INTEROFFICE FACILITY					
19					
20 DS-1 FIBER TRANSPORT (PER MILE)	PG 3, LN 18	\$21.03	\$1.90	\$9.36	\$32.29
21 % FIBER		65.00%	65.00%	65.00%	65.00%
22 FIBER TRANSPORT PROPORTION	LN 20*LN 21	13.67	1.24	6.08	20.99
23					
24 DS-1 COPPER TRANSPORT (PER MILE)	PG 4, LN 18	1,078.10	157.47	255.64	1,491.21
25 % COPPER		35.00%	35.00%	35.00%	35.00%
26 COPPER TRANSPORT PROPORTION	LN 24*LN 25	377.34	55.11	89.47	521.92
27					
28 TOTAL INTEROFFICE FACILITY	LN 22+LN 26	391.00	56.35	95.56	542.91
29					
30 AVERAGE AIRLINE MILES		12.71	12.71	12.71	12.71
31					
32 TOTAL INTEROFFICE FACILITY	LN 38*LN 30	\$4,969.67	\$716.20	\$1,214.54	\$6,900.41
33					
34					
35 TOTAL INVESTMENT - TRANSPORT FACILITY	LN 15+LN 32	\$5,341.08	\$776.62	\$1,284.04	\$7,401.74
36					
37 REFERENCE TO WORKPAPER TS-BB-4		PG 2, LN 3	PG 2, LN 8	PG 2, LN 11	PG 2, LN 12

GTE TELEPHONE OPERATIONS

RATE ELEMENT INVESTMENT SUMMARY

TRANSPORT TERMINATION (PER MOU/PER TERM)

CALIFORNIA

RATE SUBELEMENT A	SOURCE PAGE B	MATERIAL C	ENGINEERING D	INSTALLATION E	TOTAL F=C+D+E
1 ENTRANCE FACILITY					
2					
3 DS-1 FIBER SAL	SUM 2.1, LN 3*	\$0.12902557	\$0.01276799	\$0.01891951	\$0.16071307
4 % FIBER		90.00%	90.00%	90.00%	90.00%
5 FIBER SAL PROPORTION	LN 3*LN 4	0.11612301	0.01149119	0.01702756	0.14464176
6					
7 DS-1 COPPER SAL	SUM 2.1, LN 7*	0.19151042	0.10514015	0.08285133	0.37950189
8 % COPPER		10.00%	10.00%	10.00%	10.00%
9 COPPER SAL PROPORTION	LN 7*LN 8	0.02	0.01	0.01	0.04
10					
11 TOTAL ENTRANCE FACILITY	LN 5+LN 9	0.13527405	0.02200521	0.02531269	0.18259195
12					
13 % RECOVERED BY TRANSPORT TERMINATION		74.00%	74.00%	74.00%	74.00%
14					
15 PROPORTION ENTRANCE FACILITY AMOUNT	LN 11*LN 13	\$0.10010280	\$0.01628385	\$0.01873139	\$0.13511804
16					
17 ENTRANCE FACILITY AT VG LEVEL	LN 15/24	\$0.00417095	\$0.00067849	\$0.00078047	\$0.00562992
18					
19					
20 TRANSPORT TERMINATIONS (PER TERM)					
21					
22 FIBER VG TERM - DIGITAL	SUM 2.1, LN 22*	\$0.00266572	\$0.00026420	\$0.00038068	\$0.00331061
23 % DIGITAL		80.00%	80.00%	80.00%	80.00%
24 FIBER/DIGITAL COST	LN 22*LN 23	0.00213258	0.00021136	0.00030455	0.00264848
25					
26 FIBER VG TERM - ANALOG	SUM 2.1, LN 26*	0.02799148	0.00086648	0.00389773	0.03275568
27 % ANALOG		20.00%	20.00%	20.00%	20.00%
28 FIBER/ANALOG COST	LN 26*LN 27	0.00559830	0.00017330	0.00077955	0.00655114
29					
30 TOTAL FIBER INVESTMENT	LN 24+LN 28	\$0.00773087	\$0.00038466	\$0.00108409	\$0.00919962
31					
32					
33 COPPER VG TERM - DIGITAL	SUM 2.1, LN 33*	\$0.00180019	\$0.00057197	\$0.00139015	\$0.00376231
34 % DIGITAL		80.00%	80.00%	80.00%	80.00%
35 COPPER/DIGITAL COST	LN 34*LN 34	0.00144015	0.00045758	0.00111212	0.00300985
36					
37 COPPER VG TERM - ANALOG	SUM 2.1, LN 37*	0.02712595	0.00117424	0.00490720	0.03320739
38 % ANALOG		20.00%	20.00%	20.00%	20.00%
39 COPPER/ANALOG COST	LN 37*LN 38	0.00542519	0.00023485	0.00098144	0.00664148
40					
41 TOTAL COPPER INVESTMENT	LN 35+LN 39	\$0.00666534	\$0.00069242	\$0.00209356	\$0.00965133
42					
43					
44 % FIBER		65.00%	65.00%	65.00%	65.00%
45 % COPPER		35.00%	35.00%	35.00%	35.00%
46					
47 FIBER TRANSPORT TERMINATION COST	LN 30*LN 44	0.00502507	0.00025003	0.00070466	0.00597975
48 COPPER TRANSPORT TERMINATION COST	LN 41*LN 45	0.00240287	0.00024235	0.00073275	0.00337796
49					
50 TOTAL TRANSPORT TERMINATION	LN 47+LN 48	\$0.00742794	\$0.00049238	\$0.00143741	\$0.00935772
51					
52 TOTAL TERMINATION BEFORE TANDEM	LN 17+LN 50	\$0.01159889	\$0.00117087	\$0.00221788	\$0.01498764
53					
54 DIRECT TANDEM INVESTMENT	PG 9, LN 5				0.0075666
55					
56 TOTAL TRANSPORT TERMINATION INCLUDING TANDEM INVESTMENT	LN 52+LN 54	\$0.01159890	\$0.00117087	\$0.00221788	\$0.02255424
57					
58					
59 REFERENCE TO WORKPAPER TS-BB-5		PG 1, LN 3	PG 1, LN 8	PG 1, LN 11	PG 1, LN 12

* Formula for conversion from VG facilities:

VG Investment/10560 MOUS

Example:

Fiber Term - Digital \$28.15 Investment at VG level - Line 22, SUM 2.1.
 \$28.15 / 10,560 \$0.00266572 Investment per MOU based on 28.8 CCS.